

ABSTRACT OF THE DISCLOSURE

A nonmetallic electrical contact or wiper composed of a composite carbon fiber material through which an electrical signal is terminated. The carbon fibers are arranged in and bonded into a multi-layer structure used to conduct a primary electrical signal. A nonwoven carbon fiber mat is used as one or more of the layers structure, which also includes one or layers of carbon fiber, aligned substantially in the same direction, and encapsulated within a matrix of electrometric material. This mat also improves an off-axis conductivity of the material and provides increased mechanical stability required for the fabrication of electrical contacts or wipers produced using this material.